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EXAMINER	
PRUCHNIC, STANLEY J	
ART UNIT	PAPER NUMBER
2859	

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/654,851	BLAKELEY, GERALD W.	
	Examiner	Art Unit	
	Stanley J. Pruchnic, Jr.	2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 September 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 September 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08 September 2005 has been entered.

Response to Amendment

2. The reply filed on 08 September 2005 is not fully responsive to the prior Office Action because of the following omission(s) or matter(s): Claim 1 has the status identifier "original", but Applicant clearly intended it to be "currently amended". See 37 CFR 1.111. Since the above-mentioned reply appears to be *bona fide*, applicant is requested to use the correct status identifier in the Response to this Office Action, *e.g.*, "currently amended" or "previously amended", depending on the status at that time.

Oath/Declaration

3. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application, by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

the declaration filed 04 September 2003 incorrectly identifies the United States provisional application for which Applicant has claimed the benefit under 35 U.S.C. Section 119(e) as "**09/415,909**". The provisional application serial number is --**60/415,909**--.

Response to Arguments

4. Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new ground(s) of rejection.

5. Applicant's arguments, see **REMARKS**, filed 08 September 2005, with respect to the rejection(s) of Claims 1, 3-5, 9, 14-16, 19 and 23 under 35 U.S.C. 102(b) as being anticipated by HOLLANDER'682 *et al.* (U. S. Pat. No. 6,095,682, **HOLLANDER'682**), on Page 7 of Applicant's response, have been fully considered and are not persuasive. The amendment to the claims requiring a "non-contact optically-based temperature sensing device **built in** to the housing" as claimed by Applicant in Claim 1, and with regard to Claim 19, "non-contact infrared temperature sensing device **contained** within the housing" do not distinguish Applicant's invention from HOLLANDER'682 since HOLLANDER'682 discloses the temperature sensing device **built in to** (and **contained within**) the housing, as previously stated.

6. Applicant's arguments, see **REMARKS**, filed 08 September 2005, with respect to the rejection(s) of Claim 2 under 35 U.S.C. 103(a) as being unpatentable over **HOLLANDER'682** in view of MICHALSKI *et al.* (Temperature Measurement, published by Wiley and Sons, pages 152-180, (1991), **MICHALSKI**), in the last Paragraph beginning on Page 7, have been fully considered and are not persuasive as applied to the amended claims. The pertinent paragraph from **MICHALSKI** (page 178) is provided here with added emphasis by the Examiner:

> An example of a rarely built mirror total radiation pyrometer is the Compac 3 of Land Ltd (undated) shown in Figure 7.17. This compact, microprocessor based, one hand operated pyrometer, has a pyrometer detector, giving a temperature range from - 50 to + 500 °C. **In the continuous or peak measure modes, the readings are digitally displayed with a preset value for the emissivity**. The minimum target diameter at a distance of 2 m is 35 mm with a circle in the viewfinder to indicate the necessary target diameter. Although it is designed as a portable instrument it can also be installed as a fixed pyrometer with a digital output.

Applicant's argument that the "figures show an emissivity value, but it does not disclose that it is fixed" is not persuasive because the paragraph quoted above discloses that "a preset value for the emissivity" is provided, therefore, in at least the

"continuous or peak measure modes", the device has a "preset value for the emissivity", which would have been understood by one having ordinary skill in the art of non-contact infrared temperature measurement to be the same as a "fixed value for the emissivity". This is considered to mean the operator is not required to adjust the emissivity value that is preset, *i.e.,* without need for operator input.

Other prior art that was previously cited are pertinent to this feature:

US 5460451 A (WADMAN) discloses "[a] pyrometer measures the temperature of an object by measuring the quantity of thermal radiation from an object surface and conve[rt]ing it into a temperature of the surface. The relation between the quantity of thermal radiation and the temperature is dependent, *inter alia*, on the emissivity of the surface." WADMAN teaches that emissivity correction is necessary in the case of varying emissivity of the target surface: For a correct determination of the temperature it is necessary to know the emissivity value, but that "[i]n many processes in which temperatures are measured, reasonably invariable conditions prevail, such as, for example in ovens, and the emissivity has a constant value. Consequently, its value is to be determined only once."

US 4986672 A (BEYNON) discloses (Col. 4, Lines 12-21) "The target radiance signal V.sub.1 is fed to an emissivity correction circuit 29 to which is also fed a predetermined emissivity value (.epsilon.), the circuit multiplying the incoming signal by 1/ϵ in order to compensate for target emissivity."

7. Applicant's arguments, see **REMARKS**, filed 08 September 2005, with respect to the rejection(s) of Claims 6-8 under 35 U.S.C. 103(a) as being unpatentable over **HOLLANDER'682** in view of BARTOSIAK *et al.* (U. S. Pat. No. 5,011,296, **BARTOSIAK**) are persuasive in view of the amendment requiring that the temperature sensing device is **built in to** (or **contained within**) the housing as Claimed by Applicant. Therefore, the rejection(s) of Claims 6-8 have been withdrawn. However, upon further consideration, a new ground(s) of rejection of Claims 6-8 is made in view of previously cited prior art, *infra*.

8. Applicant's arguments, see **REMARKS**, filed 08 September 2005, with respect to the rejection(s) of Claims 20-22 under 35 U.S.C. 103(a) as being unpatentable over **HOLLANDER'682** in view of ANDERSON *et al.* (U. S. Pat. No. 4,045,670,

ANDERSON) have been fully considered but are not persuasive as applied to the amended claims. In response to Applicant's argument, Claim 20 broadly recites "a sense axis that is adjustable relative to the housing". The Examiner has considered the **bracket** (in phantom in Fig. 1) to be the adjustable element, as described *infra*, not the ***mirror 47***, which does not appear to be adjustable. Although a user may not normally adjust this, because it has been adjusted, *e.g.*, aligned during manufacture or in a maintenance procedure, it *allows* a user to aim the temperature sensing device more accurately than if the optical axis had not been aligned relative to the housing.

9. Regarding the rejection of Claims 10-12 and 24-26 under 35 USC 103(a) as being unpatentable over HOLLANDER'682 in view of LITVIN. Applicant's arguments with respect to Claims 10-12 and 24-26 are persuasive. Therefore, the rejection(s) have been withdrawn. However, upon further consideration, a new ground(s) of rejection of Claims 10-12 and 24-26 is made in view of newly cited prior art, *infra*. Applicant's arguments are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1, 3-5, 9, 14-16, 19 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by HOLLANDER *et al.* (U. S. Pat. No. 6,095,682, hereinafter **HOLLANDER'682**).

HOLLANDER'682 discloses a multimeter 1 (*e.g.*, see Fig. 1), and further regarding claim 19, a "digital" multimeter, with non-contact temperature measurement capability as claimed by Applicant in Claims 1, 3-5, 9, 14-16, 19 and 23, comprising:

a (digital) multimeter 1 contained in a housing and having outputs relating to measured electrical parameters (Col. 5, Lines 27-31);

an output display 2 (Col. 5, Lines 12-13)), and further regarding claim 19, a "digital" output display, contained in the housing, for displaying results to a user;

a non-contact optically-based (infrared) temperature sensing device (Col. 5, Lines 22-25) **built in to** (and **contained within**) the housing as claimed by Applicant in the respective Claims 1 and 19, having an output related to sensed temperature; and

circuitry (e.g., Col. 12, Lines 58-65) contained in the housing for processing both the multimeter outputs and the temperature sensing device output, and transmitting (Col. 5, Lines) the processed output to the output display as claimed by Applicant in ***Claims 1, 3 and 19***.

Regarding Claim 4: HOLLANDER'682 further discloses the multimeter with non-contact temperature measurement capability in which the temperature sensing device further comprises a lens 113, proximate the infrared sensor, for focusing entering radiation (Col. 6, Lines 19-26) and this would also inherently function as claimed for protecting the infrared sensor as claimed by Applicant.

Regarding Claim 5: HOLLANDER'682 further discloses the temperature sensing device defines a sense axis that is fixed relative to the housing, as claimed by Applicant, (Col. 5, Lines 27-31) which permits the user to aim the pyrometer towards a target.

Regarding Claims 9 and 23: HOLLANDER'682 further discloses an optical aiming device 104 coupled to the housing, to assist the user in aiming the temperature sensing device at an object whose temperature is to be measured.

Regarding Claims 14-15: HOLLANDER'682 further discloses the multimeter 901 further comprising a switch 907 (which is a user-operable electrical device; Fig. 28; Col. 15, Lines 53-62) for switching at least some of the circuitry between the multimeter

outputs and the temperature sensing device output; and for selectively routing the temperature sensing device output to the circuitry.

Regarding Claim 16: HOLLANDER'682 further discloses a user-operable electrical device for selectively holding (in data logger 819, for example; Col. 15, Lines 1-6) the sensed temperature as claimed by Applicant.

Moreover, **HOLLANDER'682** discloses a multimeter 114 (*e.g.,* see Fig. 6; and further regarding Claim 19, a "digital" multimeter) with non-contact temperature measurement capability as claimed by Applicant in Claims 1 and 16, comprising:

a (digital) multimeter 114 contained in a housing 106 (Figs. 3-5) and having "outputs" (or "ports" at the end of leads 111A; Fig. 6; Col. 6, Lines 56-67) relating to measured electrical parameters;

an output display 107 (and further regarding Claim 19, a "digital" output display) contained in the housing 106, for displaying results to a user;

a non-contact optically-based (and further regarding Claim 19, "infrared"-based, "optically-based considered to include the "infrared" portion of the spectrum) temperature sensing device (Col. 6, Lines 61-67) coupled (via leads that plug into ports 115, 116) to the housing, having an output related to sensed temperature as claimed by Applicant in Claim 1 (and regarding Claim 19, HOLLANDER'682 discloses the infrared temperature sensing device within the housing (as shown in Fig. 1).

HOLLANDER'682 further discloses circuitry (*e.g.,* Col. 6, Lines 26-33) contained in the housing 106 (Figs. 3-5; the circuitry inside the housing of the multimeter of Fig. 6) for processing both the multimeter outputs and the temperature sensing device output, and transmitting (Col. 6, Lines 56-67) the processed output to the output display as claimed by Applicant in ***Claims 1, 3 and 19***. HOLLANDER'682 discloses (e.g., see Fig. 8) that the pyrometer can be connected to the multimeter and, alternatively, it can be integral with the multimeter (as shown in Fig. 1). Therefore, these are art-recognized

equivalent options HOLLANDER'682 discloses for combining the multimeter housing and pyrometer.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over **HOLLANDER'682** in view of MICHALSKI *et al.* (Temperature Measurement, published by Wiley and Sons, pages 152-180, (1991), hereinafter **MICHALSKI**).

HOLLANDER'682, to summarize, discloses all the limitations as claimed by Applicant in Claim 2, as described above in Paragraph 11 as applied to Claims 1, 3-5, 9, 14-16, 19 and 23, further including the non-contact temperature sensing device having a control 9 for variation of the emissivity factor so that the emissivity value is adjustable from 0.1 to 1 (Col. 5, Lines 24-41).

HOLLANDER'682 as described above, does not disclose the non-contact temperature sensing device has a fixed emissivity as claimed by Applicant in Claim 2.

MICHALSKI defines the term "spectral emissivity", or "emissivity", as is commonly used in the art of non-contact temperature measurement to refer to the ratio of spectral radiant intensity of a non-black body radiator to the spectral radiant intensity of a black body at the same temperature (*e.g.*, see Pages 157-159). MICHALSKI teaches that knowledge of the emissivity of the target material is needed in order to calculate corrections to the indicated temperature of radiation pyrometers (Page 158).

MICHALSKI teaches (see Section 7.3.5, Pages 164-165) that total radiation pyrometers are calibrated under the assumption that the measuring target is a black body (whose emissivity is defined as 1, as is very well known in the art). MICHALSKI further teaches that the indicated temperature T_i of a total radiation pyrometer receiving radiant heat flux from a target that is ***not*** a blackbody (*i.e.*, whose emissivity is some value less than 1), the target being at a temperature T_t, must be corrected by a calculation using the actual emissivity of the target. See also Equation 7.38 (on Page 165) and Fig. 7.6 (on page 166), which teach that the correction is made by using a fixed emissivity of the pyrometer of 1.

MICHALSKI further discloses a total radiation pyrometer ("Compac 3", Fig. 7.17; Pages 177-178) which includes digitally displayed (indicated) temperature readings "with a preset value for the emissivity".

MICHALSKI is evidence that ordinary workers in the field of temperature measurement would recognize the benefit of using a fixed (preset) value for emissivity as taught by MICHALSKI for the adjustable value of HOLLANDER'682 in order to correct the indicated reading of the pyrometer after making the measurement, *i.e.*, recording the indicated temperature value, since the emissivity value of the target surface may not be known beforehand, or may be incorrectly estimated at the time of the measurement.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute a fixed emissivity value for the adjustable value of HOLLANDER'682 in order to be able to correct for the emissivity of the target

surface by means of an equation or chart subsequent to recording the indicated temperature value as taught by MICHALSKI.

15. **Claims 6-8 and 20-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over **HOLLANDER'682** in view of ANDERSON *et al.* (U. S. Pat. No. 4,045,670, hereinafter **ANDERSON**).

HOLLANDER'682, to summarize, discloses all the limitations as claimed by Applicant in **Claims 20-22** as described above in Paragraph 11 as applied to Claims 1, 3-5, 9, 14-16, 19 and 23 including a temperature sensing device within to the housing (as claimed by Applicant in Claim 19) having a sense axis directed toward the IR sensing element (detector). **HOLLANDER'682** does not explicitly disclose that the sense axis is ***adjustable*** relative to the housing, as claimed by Applicant in Claim 20; and ***mounted in a mount that is coupled to and movable*** relative to the housing as claimed by Applicant in Claims 21; and ***rotatably coupled*** to the housing as claimed by Applicant in Claim 22.

ANDERSON discloses IR detector 49 (See Figs. 1-2), mounted in a bracket (in phantom in Fig. 1) by a screw, as shown in Fig. 2. ANDERSON discloses or suggests that the sensing axis of the IR detector 49 is directed through the center of lens 19 by means of dichroic mirror 47 (Col. 3, Lines 5-24), and parallel to the housing cover 13.

In normal use, all these optical components will be fixed in their aligned positions. However, each of the components are required to be aligned, at least during the construction/assembly of the device. Ordinary workers in the field of infrared temperature sensors would recognize the benefit of using a rotatably coupled adjustable mount (such as a screw in a bracket as shown by ANDERSON) for coupling the IR detector to the housing in order to align the optics at least during the assembly of the device. These features are known in the art to enable re-alignment after the device has been in use, since optics may be jarred use by rough handling of the device, *etc.*

ANDERSON is evidence that ordinary workers in the field of infrared temperature sensors would recognize the benefit of using an rotatably coupled adjustable mount for coupling the IR detector to the housing as suggested by ANDERSON for the IR detector and housing of HOLLANDER'682 in order to align the sensing axis to be parallel to the housing cover 13 in order to enable more intuitive aiming of the device, as is commonly done in the art.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the adjustable mount for IR detector forming the sense axis of HOLLANDER'682 in order to provide a more intuitive 1st approximation of aiming of the device as suggested by ANDERSON.

16. Claims 10-12 and 24-26 are FINALLY rejected under 35 U.S.C. 103(a) as being unpatentable over **HOLLANDER'682** in view of US 6267500 B1 (HOLLANDER; Milton Bernard *et al.*, hereinafter **HOLLANDER'500**).

HOLLANDER'682, to summarize, discloses all the limitations as claimed by Applicant in **Claims 10-12 and 24-26** as described above in Paragraph 11 as applied to Claims 1, 3-5, 9, 14-16, 19 and 23 including an optical aiming device comprising a laser (e.g., see Figs. 1, 2C; and Col. 16, Lines 23-33) which defines an aiming axis. **HOLLANDER'682** further discloses that the laser is ***mounted in a mount (sighting means 805) that is coupled to and movable*** relative to the housing.

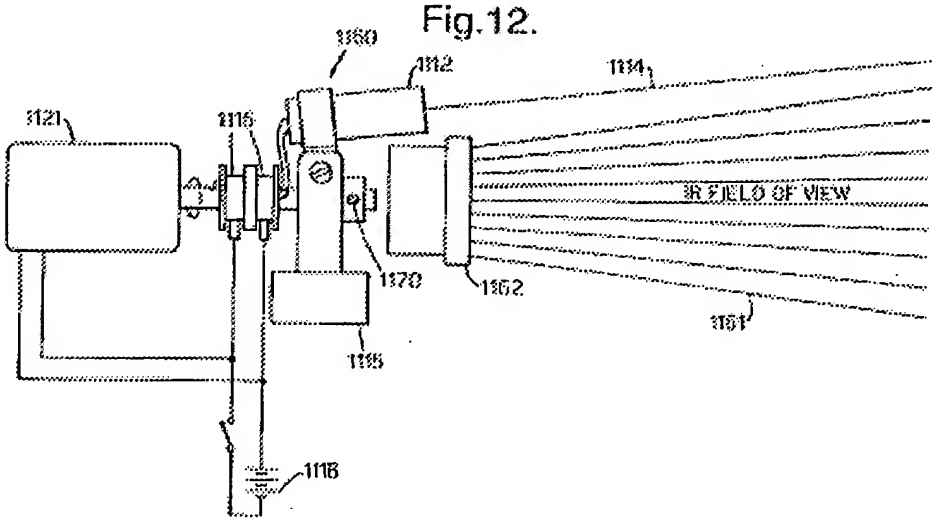
HOLLANDER'682 does not explicitly disclose that the aiming axis defined by the laser is ***adjustable*** relative to the housing as claimed by Applicant in Claims 10 and 24;

HOLLANDER'682 does not explicitly disclose that the optical aiming device ***mount*** 805 is movable relative to the housing in order to allow the user to aim the optical aiming device as claimed by Applicant in Claims 11 and 25; and

HOLLANDER'682 does not explicitly disclose that the optical aiming device mount is ***rotatably coupled to the housing*** as claimed by Applicant in Claims 12 and 26.

HOLLANDER'500 discloses an adjustable beam alignment system for a non-contact infrared temperature-measuring unit, including (*e.g.,* See Figs. 11-13) a laser adjustable relative to the housing, *i.e.*, Laser 1112 in Fig. 12 (see below). The laser 1112 is in a mount that is rotatably (about pivot 1120) coupled to and movable relative to the housing of the infrared temperature-measuring unit, which functions to make the aiming axis (laser beam 1114 in Fig. 12; and 1014 in Fig. 11) ***adjustable*** relative to the housing, for example, by adjusting screws 1011 and 1013 (Col. 10, Lines 45-61; with respect to Fig. 12).

Fig.12.



HOLLANDER'500 further discloses that it is advantageous to adjust the aiming axis in order to benefit from projecting the laser beam around the periphery of the infrared field of view in order to more accurately aim the temperature sensor at the target area of interest.

HOLLANDER'500 is evidence that ordinary workers in the field of infrared temperature measuring devices would recognize the benefit of using the adjustable aiming device including mount rotatably coupled to the housing as taught by **HOLLANDER'500** for the laser aiming system of HOLLANDER'682 in order to more accurately aim the temperature sensor at the target area of interest.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the adjustable aiming device including mount rotatably coupled to the housing for the laser aiming system of HOLLANDER'682 in order to more accurately aim the temperature sensor at the target area of interest as taught by **HOLLANDER'500**.

17. Claim 13 is FINALLY rejected under 35 U.S.C. 103(a) as being unpatentable over **HOLLANDER'682** in view of AOYAMA *et al.* (U. S. Pat. No. 6,280,082, hereinafter **AOYAMA**).

HOLLANDER'682, to summarize, discloses all the limitations as claimed by Applicant in Claim 13, as described above in Paragraph 11 as applied to Claims 1, 3-5, 9, 14-16, 19 and 23, further including the limitation that the optical aiming device comprises a laser device (Col. 10, Lines 46-52). But **HOLLANDER'682** does not explicitly disclose the optical aiming device comprises a diode laser device as claimed by Applicant.

AOYAMA teaches it is known in the art to use a laser diode in a light projecting optical aiming device for an infrared thermometer (Col. 5, Lines 48-54; Col. 6, Line 52 - Col. 7, Line 15), *e.g.,* "The light emitter 13 includes a laser diode or the like, and outputs a laser beam in a visible spectrum along an optical axis L2. The condenser lens 14 makes the visible light output from the light emitter 13 parallel with the optical axis L2."

AOYAMA is evidence that ordinary workers in the field of aiming systems for infrared temperature measuring devices would recognize the benefit of using a diode laser as taught by AOYAMA for the laser of HOLLANDER'682 in order to enable pulsed operation providing lower average luminance level for safety but higher brightness for visibility (Col. 6, Line 52 - Col. 7, Line 15).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute a laser diode for the laser of HOLLANDER'682 in order to provide higher visibility with safety as taught by AOYAMA.

18. Claims 17-18 and 27-28 are FINALLY rejected under 35 U.S.C. 103(a) as being unpatentable over **HOLLANDER'682** in view of **WADMAN** (U. S. Pat. No. 5,460,451).

HOLLANDER'682, to summarize, discloses all the limitations as claimed by Applicant in Claims 17-18 and 27-28, as described above in Paragraph 11 as applied to Claims 1, 3-5, 9, 14-16, 19 and 23 further including circuitry that determines the sensed temperature based on the output of the temperature sensing device using a control 9 for variation of the emissivity factor; and HOLLANDER'682 discloses that emissivity is adjustable from 0.1 to 1 (Col. 5, Lines 24-41), so HOLLANDER'682 discloses the emissivity is less than or equal to one.

Moreover, regarding Claims 17 and 27, these limitations are directed towards the intended use of a fixed emissivity [correction value], therefore it is considered that HOLLANDER'682's adjustable emissivity control is not required to be adjusted in normal use. Thus, HOLLANDER'682's circuitry is considered capable of being used as claimed by Applicant, *i.e.,* determining a sensed temperature based on the output of the temperature sensing device "using a fixed emissivity". It could also be argued that one of ordinary skill in the art would have found it obvious to use a fixed emissivity value of one when HOLLANDER'682's device is used for it's intended purpose of determining the emissivity of the surface in combination with a contact temperature measurement.

HOLLANDER'682 as described above, does not disclose using a fixed emissivity in which the fixed emissivity is less than one as claimed by Applicant.

WADMAN discloses emissivity has a constant value in many processes, consequently its value is to be determined only once (Col. 1, Lines 19-46).

WADMAN is evidence that ordinary workers in the field of temperature measurement would recognize the benefit of using a fixed value for emissivity as taught

by WADMAN for the adjustable value of HOLLANDER'682 in order to simplify the operation of the device, in accordance with conditions of the particular application, *i.e.*, the intended use.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute a fixed emissivity value for the adjustable value of HOLLANDER'682 in order to simplify the operation of the device as suggested by WADMAN.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in a form PTO-892 and not mentioned above disclose related temperature measurement devices and methods

- Fujima (US 5860740) teaches having predetermined values of emissivity;
- Christol et al (US 4634294) requires an emissivity input;
- U. S. Patents 4743122 and RE34507 disclose peak hold circuits;
- U. S. Patent 4986672 discloses structure forming a sense axis and discloses use of a predetermined emissivity; and
- U. S. Patents 5836694 and 6234669 disclose laser-aiming structures.
- Mack (US 4896281 A) teaches that it is known in the art for non-contact thermal imagers to lack adjustment controls for correction of temperature readings due to emissivity of the target surface.
- Nagasaka et al (US 4,773,766 A) discloses a radiation thermometer may include an assembly of a non-contact temperature detector and a data recorder which are separable from each other or a combination which can be electrically connected (Col. 8, Lines 4-9).

Newly cited prior art:

- US 5352039 A (Barral; Jean-Pierre et al.) discloses an optical aiming device in a mount rotatably coupled to the housing.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stanley J. Pruchnic, Jr., whose telephone number is

(571) 272-2248. The examiner can normally be reached on weekdays (Monday through Friday), the best hours being from 8:30 AM to 4:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez (Art Unit 2859) can be reached at **(571) 272-2245**. The Central FAX Number for *all official USPTO communications* is **571-273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding may be directed to the official USPTO website at **http://www.uspto.gov/** or you may call the **USPTO Call Center** at **800-786-9199** or 703-308-4357. The Technology Center 2800 Customer Service FAX phone number is (703) 872-9317.

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9/19/05